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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/616,486	07/08/2003	Jesse T. Quatse	167.001	9731

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ELLIOT B. ARONSON  
5001 HARBORD DRIVE  
OAKLAND, CA 94618

EXAMINER
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LASTRA, DANIEL

ART UNIT	PAPER NUMBER
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3622

DATE MAILED: 01/31/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/616,486

Applicant(s)

QUATSE ET AL.

Examiner

DANIEL LASTRA

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on 08/19/04.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-22 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-22 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

### DETAILED ACTION

1. Claims 1-22 have been examined. Application 10/616,486 **HIGH-PRECISION CUSTOMER-BASED TARGETING BY INDIVIDUAL USAGE STATISTICS** was filed 07/08/2003.

#### ***Claim Rejections - 35 USC § 101***

2. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claims 1-9 and 10-19 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. Claims 1-9 and 10-19 are not within the technological arts.

As an initial matter, the United States Constitution under Art. I, §8, cl. 8 gave Congress the power to "[p]romote the progress of science and useful arts, by securing for limited times to authors and inventors the exclusive right to their respective writings and discoveries". In carrying out this power, Congress authorized under 35 U.S.C. §101 a grant of a patent to "[w]hoever invents or discovers any new and useful process, machine, manufacture, or composition or matter, or any new and useful improvement thereof." Therefore, a fundamental premise is that a patent is a statutorily created vehicle for Congress to confer an exclusive right to the inventors for "inventions" that promote the progress of "science and the useful arts". The phrase "technological arts" has been created and used by the courts to offer another view of the term "useful arts". See *In re Musgrave*, 167 USPQ (BNA) 280 (CCPA 1970). Hence, the first test of whether an invention is eligible for a patent is to determine if the invention is within the "technological arts".

Further, despite the express language of §101, several judicially created exceptions have been established to exclude certain subject matter as being patentable subject matter covered by §101. These exceptions include "laws of nature", "natural phenomena", and "abstract ideas". See *Diamond v. Diehr*, 450, U.S. 175, 185, 209 USPQ (BNA) 1, 7 (1981). However, courts have found that even if an invention incorporates abstract ideas, such as mathematical algorithms, the invention may nevertheless be statutory subject matter if the invention as a whole produces a "useful, concrete and tangible result." See *State Street Bank & Trust Co. v. Signature Financial Group, Inc.* 149 F.3d 1368, 1973, 47 USPQ2d (BNA) 1596 (Fed. Cir. 1998).

This "two prong" test was evident when the Court of Customs and Patent Appeals (CCPA) decided an appeal from the Board of Patent Appeals and Interferences (BPAI). See *In re Toma*, 197 USPQ (BNA) 852 (CCPA 1978). In *Toma*, the court held that the recited mathematical algorithm did not render the claim as a whole non-statutory using the Freeman-Walter-Abele test as applied to *Gottschalk v. Benson*, 409 U.S. 63, 175 USPQ (BNA) 673 (1972). Additionally, the court decided separately on the issue of the "technological arts". The court developed a "technological arts" analysis:

The "technological" or "useful" arts inquiry must focus on whether the claimed subject matter...is statutory, not on whether the product of the claimed subject matter...is statutory, not on whether the prior art which the claimed subject matter purports to replace...is statutory, and not on whether the claimed subject matter is presently perceived to be an improvement over the prior art, e.g., whether it "enhances" the operation of a machine. *In re Toma* at 857.

In *Toma*, the claimed invention was a computer program for translating a source human language (e.g., Russian) into a target human language (e.g., English). The court found

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that the claimed computer implemented process was within the "technological art" because the claimed invention was an operation being performed by a computer within a computer.

The decision in *State Street Bank & Trust Co. v. Signature Financial Group, Inc.* never addressed this prong of the test. In *State Street Bank & Trust Co.*, the court found that the "mathematical exception" using the Freeman-Walter-Abele test has little, if any, application to determining the presence of statutory subject matter but rather, statutory subject matter should be based on whether the operation produces a "useful, concrete and tangible result". See *State Street Bank & Trust Co.* at 1374. Furthermore, the court found that there was no "business method exception" since the court decisions that purported to create such exceptions were based on novelty or lack of enablement issues and not on statutory grounds. Therefore, the court held that "[w]hether the patent's claims are too broad to be patentable is not to be judged under §101, but rather under §§102, 103 and 112." See *State Street Bank & Trust Co.* at 1377. Both of these analysis goes towards whether the claimed invention is non-statutory because of the presence of an abstract idea. Indeed, *State Street* abolished the Freeman-Walter-Abele test used in *Toma*. However, *State Street* never addressed the second part of the analysis, i.e., the "technological arts" test established in *Toma* because the invention in *State Street* (i.e., a computerized system for determining the year-end income, expense, and capital gain or loss for the portfolio) was already determined to be within the technological arts under the *Toma* test. This dichotomy has been recently acknowledged by the Board of Patent Appeals and Interferences (BPAI) in affirming a

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§101 rejection finding the claimed invention to be non-statutory. See *Ex parte Bowman*, 61 USPQ2d (BNA) 1669 (BdPatApp&Int 2001).

In the present application, independent claims 1, 10 and 18 recite a “useful, concrete and tangible result” (a method of distributing limited quantities of promotional offers), however the claims recite no structural limitations and so they fail the first prong of the test (technological arts). Dependent claims 2-9, 11-17 and 19 do not remedy this situation as no structural limitations are recited.

***Claim Rejections - 35 USC § 112***

3. Claims 8 and 20 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claims 8, 20 recites “database customer” which makes the claims indefinite. For purpose of art rejection the Examiner would read “database customer” to mean “customer”.

***Claim Rejections - 35 USC § 102***

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1-12, 18 and 20-22 are rejected under 35 U.S.C. 102(e) as being anticipated by Sridhar et al (US 2003/0208754).

As per claim 1, Sridhar teaches:

A method of distributing limited quantities of promotional offers from a plurality of promotional offers to a plurality of customers comprising:

providing, for each combination of customer and promotional offer from said pluralities, a measure of the probability that the customer will accept the promotional offer (see paragraphs 95, 116, 156-160, 191) ; and

for at least one customer from said plurality of customers, selecting a limited quantity of offers from said plurality of offers for distribution to said at least one customer, wherein said limited quantity of offers are selected substantially in descending order of said measures of probabilities provided for all combinations of said at least one customer with said promotional offers (see paragraphs 175-201).

As per claim 2, Sridhar teaches:

The method of claim 1 wherein the quantity of offers for distribution to said at least one customer is limited by selecting no more than a pre-set fixed number of offers for said at least one customer (see paragraph 178).

As per claim 3, Sridhar teaches:

The method of claim 1 wherein the quantity of offers for distribution to said at least one customer is limited by selecting only those offers having a measure of probability for said at least one customer greater than or approximately equal to a pre-set fixed cutoff value (see paragraph 216).

As per claim 4, Sridhar teaches:

The method of claim 1 wherein a limited quantity of offers are selected for distribution to each and every customer of said plurality of customers, the offers for each individual customer being selected substantially in descending order of said measures of probabilities provided for that individual customer (see paragraphs 175-201).

As per claim 5, Sridhar teaches:

The method of claim 1 wherein a limited quantity of offers are selected for distribution to a selected subplurality of customers from said plurality of customers, the offers for each individual customer of said subplurality being selected substantially in descending order of said measures of probabilities provided for that individual customer (see paragraphs 175-201).

As per claim 6, Sridhar teaches:

The method of claim 5 further comprising:

partitioning said plurality of customers into a plurality of market segments; and wherein said subplurality corresponds to one of said market segments (see paragraph 241).

As per claim 7, Sridhar teaches:

The method of claim 1, further comprising:

grouping a plurality of distinct products into a plurality of product groupings; providing a product grouping probability profile associating with each said product grouping a measure of the probability that a customer will purchase a product from said product grouping (see paragraphs 213-229); and



deriving said measure of probability for each said combination of customer and promotional offer from the measure of probability associated with each product grouping containing a product subject to the promotional offer (see paragraphs 175-201).

As per claim 8, Sridhar teaches:

The method of claim 7, further comprising:

providing access to a transaction history database for at least a substantial portion of said plurality of customers, wherein the database associates with each database customer an identification of transactions engaged in by the database customer and an identification of products previously purchased by the database customer in each of the transactions (see paragraphs 71 and 134);

providing a transaction summary data structure associating with each database customer the total number of transactions the database customer has engaged in and the numbers of transactions including each said product grouping (see paragraphs 140-159);

averaging the product groupings per transaction from said transaction summary data structure for at least a portion of said database customers (see paragraphs 140-159); and

deriving said measure of probability associated with each said product grouping from the averaged product groupings per transaction for the associated product grouping (see paragraphs 140-159).

As per claim 9, Sridhar teaches:

The method of claim 7, further comprising:

normalizing said product grouping probability profile for an individual customer to reflect a relative probability of said individual customer purchasing from a product grouping with respect to an average probability for a customer to purchase from said product grouping (see paragraphs 70, 140-160).

As per claim 10, Sridhar teaches:

A method of distributing limited quantities of promotional offers from a plurality of promotional offers to a plurality of customers comprising:

grouping a plurality of distinct products into a plurality of product groupings; providing a product grouping probability profile associating with each said product grouping a measure of the purchase probability that a customer will purchase a product from said product grouping (see paragraphs 134-139);

applying preprogrammed targeting criteria embodying a marketing strategy to said product grouping probability profile to provide a profile of offer scores; providing, for each combination of customer and promotional offer from said pluralities, a measure of the acceptance probability that the customer will accept the promotional offer (see paragraphs 164-201;191),

wherein said measure of acceptance probability is derived from said profile of offer scores (see paragraph 191);

for at least one customer from said plurality of customers, selecting a limited quantity of offers from said plurality of offers for distribution to said at least one customer, wherein said limited quantity of offers are selected substantially in descending order of said measures of acceptance probabilities provided for all

combinations of said at least one customer and said promotional offers (see paragraphs 212-231).

As per claim 11, Sridhar teaches:

The method of claim 10, wherein

said marketing strategy includes at least one targeting product grouping and a promoted product grouping linked to said at least one targeting product grouping; and said promotional offers are distributed only to customers having a high probability of acceptance for said at least one targeting product grouping (see paragraphs 175-178).

As per claim 12, Sridhar teaches:

The method of claim 11, further comprising: providing a taxonomy of said product groupings; wherein said at least one targeting product grouping is defined in reference to said taxonomy (see paragraph 70).

As per claim 18, Sridhar teaches:

A method of adjusting the distribution of limited quantities of promotional offers from a plurality of promotional offers to a plurality of customers comprising:

providing, for each combination of customer and promotional offer from said pluralities, a measure of the acceptance probability that the customer will accept the promotional offer (see paragraphs 175-201),

presenting the measures of acceptance probabilities for an individual customer in a graphical display (see figure 7),

wherein said graphical display includes a plurality of graphic elements, one said graphic element being associated with each said measure of acceptance probability

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provided for said individual customer at least for the highest ranking of said measures (see paragraph 116);

enabling adjustment of said measures of acceptance probability by movement of the associated graphic elements; and selecting a limited quantity of offers from said plurality of offers for distribution to said individual customer, wherein said limited quantity of offers are selected substantially in descending order of said measures of acceptance probabilities as adjusted in said enabling step (see paragraphs 164-201; see figure 7).

As per claim 20, Sridhar teaches:

A method of distributing limited quantities of promotional offers from a plurality of promotional offers to a plurality of customers utilizing a transaction history database for at least a substantial portion of said plurality of customers, wherein the database associates with each database customer an identification of transactions engaged in by the database customer and an identification of products previously purchased by the database customer in each of the transactions, said method comprising:

deriving a historical purchase probability profile from said transaction history database for at least a portion of the customers in said database and for a plurality of product groupings in said database, said historical purchase probability profile providing for each individual customer and for each individual product grouping a measure of the probability that said individual customer will purchase a product from said individual product grouping (see paragraphs 64, 71, 116);

applying a statistical model to said purchase probability profile for a given individual customer to determine estimated probabilities that said given individual customer will purchase one or more products from said product groupings (see paragraph 134-135);

selecting a limited quantity of offers from said plurality of offers for distribution to said given individual customer (see paragraphs 178, 212);

wherein said limited quantity of offers is selected substantially in descending order of said estimated probabilities (see paragraphs 222-229).

As per claim 21, Sridhar teaches:

The method of claim 20 wherein said statistical model is an empirical Bayesian statistical model (see paragraph 135).

As per claim 22, Sridhar teaches:

The method of claim 20 wherein one or more of said product groupings includes one and only one product (see paragraph 191).

### ***Claim Rejections - 35 USC § 103***

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 13-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sridhar et al (US 2003/0208754) in view of Deaton et al (U.S. 6,684,195).

As per claim 13, Sridhar teaches:

The method of claim 11, but fails to teach wherein said marketing strategy includes a MoveStock strategy. However, Deaton teaches a MoveStock strategy (see column 105, lines 63-67). Therefore, it would have been obvious to a person of ordinary skill in the art at the time the application was made, to know that Sridhar would include a MoveStock marketing strategy, as taught by Deaton. It would be important to Sridhar to include arbitrary grouping of products, such as hot cereals, because if a single product in the grouping of products is set up as a criteria and someone is infrequent to that criteria, a manufacturer might believe the customer is not buying hot cereals and would incorrectly target the customer with hot cereals' promotions.

As per claim 14, Sridhar teaches:

The method of claim 11, but fails to teach wherein said marketing strategy includes an UpSell strategy. However, Deaton teaches an UpSell marketing strategy (see column 90, lines 60-67; column 86). Therefore, it would have been obvious to a person of ordinary skill in the art at the time the application was made, to know that Sridhar would include an UpSell marketing strategy, as taught by Deaton. Including this feature in Sridhar would induce customers to expend more, as the customers that expend more money would receive the better offers.

As per claim 15, Sridhar teaches:

The method of claim 11, but fails to teach wherein said marketing strategy includes a CrossSell strategy. However, Deaton teaches a CrossSell strategy (see column 106, lines 11-40; column 109, lines 25-45; column 105). Therefore, it would have been obvious to a person of ordinary skill in the art at the time the application was

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made, to know that Sridhar would include a CrossSell marketing strategy, as taught by Deaton. Sridhar would use the customers' purchase history to determine the promotions' offers that would induce customers to purchase the promoted products.

As per claim 16, Sridhar teaches:

The method of claim 11, but fails to teach wherein said marketing strategy includes a Reward strategy. However, Deaton teaches a reward marketing strategy (see column 74, lines 19-27). Therefore, it would have been obvious to a person of ordinary skill in the art at the time the application was made, to know that Sridhar would include a Reward marketing strategy, as taught by Deaton. This feature would reward customers that purchase the promoted products.

As per claim 17, Sridhar teaches:

The method of claim 11, but fails to teach wherein said marketing strategy includes a BrandChange strategy. However, Deaton teaches a BrandChange marketing strategy (see column 103, lines 10-16). Therefore, it would have been obvious to a person of ordinary skill in the art at the time the application was made, to know that Sridhar would include a BrandChange marketing strategy, as taught by Deaton. This feature would target customers with incentives to change products' brands.

Claim 19 is rejected under 35 U.S.C. 103(a) as being unpatentable over Sridhar et al (US 2003/0208754).

As per claim 19, Sridhar teaches:

The method of claim 18, but fails to teach wherein said graphical display comprises a bar chart, said graphic elements comprise individual bars of said bar chart,

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and said movement comprises dragging said bars to lengthen and shorten them and thereby increase and decrease the associated measure of acceptance probability. However, it would have been obvious to a person of ordinary skill in the art at the time the application was made, to know that if Sridhar sorts the offers acceptance probability in order to determine the products with the largest purchase predictions, Sridhar would also present all the purchase prediction products in a graphic bar chart. The user would be able to adjust the graphic bar chart in the user's computer and would be able to select the products' offers based upon the adjustment.

### ***Conclusion***

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to DANIEL LASTRA whose telephone number is 703-306-5933. The examiner can normally be reached on 9:30-6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, ERIC W STAMBER can be reached on 703-305-8469. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.



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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

DL

Daniel Lastra  
January 6, 2005

Yehdega Retha  
Primary Examiner  
AU 3622